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**SCULLY, SCOTT, MURPHY
& PRESSER, P.C.****Fax**

To: Attention: Refunds
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From: Anna Eberle for Paul J. Esatto, Jr.

Fax: 571-273-6500

Pages: 16

Phone:

Date: 8/28/2006

Re:

USSN: 10/536,597

Filed: May 26, 2005

Our Docket: 18886

CC:

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• **Comments:**

Deposit Account 19-1013 was erroneously charged \$50.00 in December 2005 for an extra claim fee. There are 32 claims in the application according to the Preliminary Amendment. We paid for 32 claims with 4 extra independent claims. A copy of the Transmittal Letter and Preliminary Amendment are enclosed, as well as the deposit account statement from December. Therefore, the \$50.00 fee was not required. Please credit the deposit account with the \$50.00.

Thank you.

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Adjustment Date: 10/08/2006
10/12/2006 10:11:00 AM 191013 10536597
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Requested Statement Month: December 2005
 Deposit Account Number: 191013
 Name: SCULLY, SCOTT, MURPHY & PRESSER
 Attention: LINDA ANN HAGEMeyer
 Address: A PROFESSIONAL CORPORATION
 City: GARDEN CITY
 State: NY
 Zip: 11530-0299
 Country: UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
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12/12	1	10536597	18886	1615	\$50.00	\$20,232.88

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12/30 37	E-REPLENISHMENT		9203	-\$25,000.00	\$40,479.88

START	SUM OF	SUM OF	END
BALANCE	CHARGES	REPLENISH	BALANCE
\$16,567.88	\$16,533.00	\$40,445.00	\$40,479.88

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FORM PTO-1390 (Modified) U.S. PATENT AND TRADE OFFICE; U.S. DEPARTMENT OF COMMERCE (REV. 2-2003)		ATTC 18886
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A SUBMISSION UNDER 35 U.S.C. 371		U.S. APPLICATION NO. (if known, see 37 CFR 1.5)
INTERNATIONAL APPLICATION NO. PCT/JP2003/015256	INTERNATIONAL FILING DATE 28 November 2003 (28.11.2003)	PRIORITY DATE CLAIMED 29. November 2002 (29.11.2002)
TITLE OF INVENTION MICROCHIP AS WELL AS SOLVENT DISPLACING METHOD, CONCENTRATING METHOD AND MASS SPECTROMETRY SYSTEM THEREWITH		
APPLICANT(S) FOR DO/EO/US Masakazu Baba, Toru Sano, Kazuhiro Iida, Hisao Kawaura, Noriyuki Iguchi, Wataru Hattori, Hiroko Someya, Minoru Asogawa		
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:		
<ol style="list-style-type: none"> 1. <input checked="" type="checkbox"/> This is a FIRST submission of items concerning a submission under 35 U.S.C. 371. 2. <input type="checkbox"/> This is a SECOND or SUBSEQUENT submission of items concerning a submission under 35 U.S.C. 371. 3. <input checked="" type="checkbox"/> This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (24) indicated below. 4. <input checked="" type="checkbox"/> The US has been elected (Article 31). 5. <input checked="" type="checkbox"/> A copy of the International Application as filed (35 U.S.C. 371 (c)(2)) <ol style="list-style-type: none"> a. <input type="checkbox"/> is attached hereto (required only if not communicated by the International Bureau). b. <input checked="" type="checkbox"/> has been communicated by the International Bureau. c. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US). 6. <input checked="" type="checkbox"/> An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)). <ol style="list-style-type: none"> a. <input checked="" type="checkbox"/> is attached hereto. b. <input type="checkbox"/> has been previously submitted under 35 U.S.C. 154(d)(4). 7. <input checked="" type="checkbox"/> Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371 (c)(3)) <ol style="list-style-type: none"> a. <input type="checkbox"/> are attached hereto (required only if not communicated by the International Bureau). b. <input type="checkbox"/> have been communicated by the International Bureau. c. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. d. <input checked="" type="checkbox"/> have not been made and will not be made. 8. <input type="checkbox"/> An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)). 9. <input checked="" type="checkbox"/> An oath or declaration of the inventor(s) (35 U.S.C. 371 (c)(4)). 10. <input type="checkbox"/> An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 38 (35 U.S.C. 371 (c)(5)). 11. <input type="checkbox"/> A copy of the International Preliminary Examination Report (PCT/IPEA/409). 12. <input checked="" type="checkbox"/> A copy of the International Search Report (PCT/ISA/210). 		
Items 13 to 23 below concern document(s) or information included:		
<ol style="list-style-type: none"> 13. <input checked="" type="checkbox"/> An Information Disclosure Statement under 37 CFR 1.97 and 1.98. 14. <input checked="" type="checkbox"/> An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included. 15. <input checked="" type="checkbox"/> A FIRST preliminary amendment. 16. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment. 17. <input type="checkbox"/> A substitute specification. 18. <input type="checkbox"/> A power of attorney and/or change of address letter. 19. <input type="checkbox"/> A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 37 CFR 1.821 - 1.825. 20. <input type="checkbox"/> A second copy of the published International Application under 35 U.S.C. 154(d)(4). 21. <input type="checkbox"/> A second copy of the English language translation of the International Application under 35 U.S.C. 154(d)(4). 22. <input checked="" type="checkbox"/> Express Mail Label No. EV21389693US 23. <input checked="" type="checkbox"/> Other items or information: Thirty-three (33) sheets of drawings Assignee: NEC Corporation of Tokyo, Japan 		

PTO-1390 (Rev. 02-2005)

U.S. Patent and Trademark

Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

U.S. APPLICATION NO. (if known, see 37 CFR 1.5)		INTERNATIONAL APPLICATION NO. PCT/JP2003/015256		ATTORNEY'S DOCKET NUMBER 18886	
The following fees are submitted:				CALCULATIONS PTO USE	
24. <input checked="" type="checkbox"/> Basic national fee		\$300		\$	\$300.00
25. <input checked="" type="checkbox"/> Examination fee					
If international preliminary examination report prepared by USPTO and all claims satisfy provisions of PCT Article 33(1)-(4).		\$100		\$	\$200.00
All other situations.		\$200			
26. <input checked="" type="checkbox"/> Search fee					
Search fee (37 CFR 1.445(a)(2)) has been paid on the international application to the USPTO as an International Searching Authority.		\$100			
International Search Report prepared and provided to the Office		\$400			
All other situations.		\$600		\$	\$400.00
TOTAL OF 24, 25 and 26 =				\$	\$900.00
<input type="checkbox"/> Additional fee for specification and drawings filed in paper over 100 sheets (excluding sequence listing or computer program listing filed in an electronic medium). The fee is \$250 for each additional 50 sheets of paper or fraction thereof.					
Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof (round up to a whole number)	RATE		
87 - 100 =	0 / 50 =	0	x \$250.00	\$	\$0.00
Surcharge of \$130.00 for furnishing the oath or declaration later than months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE		
Total claims	** 32 - 20 =	12	x \$50.00	\$	\$600.00
Independent claims	7 - 3 =	4	x \$200.00	\$	\$800.00
MULTIPLE DEPENDENT CLAIMS (if applicable) <input type="checkbox"/> + \$360.00				\$	\$0.00
TOTAL OF ABOVE CALCULATIONS =				\$	\$2,300.00
<input type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				\$	\$0.00
SUBTOTAL =				\$	\$2,300.00
Processing fee of \$130.00 for furnishing the English translation later than 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	\$0.00
TOTAL NATIONAL FEE =				\$	\$2,300.00
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40 per property +				\$	\$0.00
TOTAL FEES ENCLOSED =				\$	\$2,300.00
**Please see Preliminary Amendment for claim count.				Amount to be refunded:	\$
				Amount to be charged:	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$ <u>\$2,300.00</u> to cover the above fees is enclosed.					
b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of _____ to cover the above fees. A duplicate copy of this sheet is enclosed.					
c. <input checked="" type="checkbox"/> The Director is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>19-1013 SSMP</u> . A duplicate copy of this sheet is enclosed.					
d. <input type="checkbox"/> Fees are to be charged to a credit card. WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
NOTE: Where an appropriate time limit under 37 CFR 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the international application to pending status.					
SEND ALL CORRESPONDENCE TO:					
Paul J. Esatto, Jr. Customer No. 23389 Scully, Scott, Murphy & Presser			SIGNATURE Paul J. Esatto, Jr., NAME 30,749 REGISTRATION NUMBER		

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)

Applicant(s): Masakazu Baba, et al.

Docket No.

18886

Application No.
unassignedFiling Date
herewithExaminer
unassignedCustomer No.
23389Group Art Unit
unassignedInvention: **MICROCHIP AS WELL AS SOLVENT DISPLACING METHOD, CONCENTRATING METHOD AND MASS SPECROMETRY SYSTEM THEREWITH**

I hereby certify that the following correspondence:

New U.S. Patent Application Under 35 U.S.C. 371

(Identify type of correspondence)

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

May 26, 2005*(Date)*Paul J. Esatto, Jr.*(Typed or Printed Name of Person Mailing Correspondence)*
*(Signature of Person Mailing Correspondence)*EV213896935US*("Express Mail" Mailing Label Number)***Note: Each paper must have its own certificate of mailing.**

P08A/REV03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	Masakazu Baba, et al.	Examiner:	Unassigned
Serial No:	Unassigned	Art Unit:	Unassigned
Filed:	Herewith	Docket:	18886
For:	MICROCHIP AS WELL AS SOLVENT DISPLACING METHOD, CONCENTRATING METHOD AND MASS SPECTROMETRY SYSTEM THEREWITH	Dated:	May 26, 2005

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Alexandria, VA 22313-1450

PRELIMINARY AMENDMENT

Sir:

In connection with the above-identified patent application, kindly enter the following preliminary amendment.

CERTIFICATE OF MAILING BY EXPRESS MAIL

Express Mail Mailing Label Number: EV213896935US
Date of Deposit: May 26, 2005

I hereby certify that this correspondence is being deposited with the United States Postal Service Express Mail Post Office to Addressee service under 37 C.F.R. §1.10 on the date indicated above and is addressed to the Commissioner for Patents, Box 1450, Alexandria, VA 22313-1450.

Dated: May 26, 2005



Paul J. Esatto, Jr.

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In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. A microchip on a substrate, comprising a channel for a liquid sample containing a particular component and a sample feeding part provided in said channel,

wherein said channel is branched into a first channel and a second channel, an inlet of said first channel from said sample feeding part has a filter for preventing passage of said particular component, and an inlet of said second channel from said sample feeding part has a damming area preventing passage of said liquid sample while permitting said liquid sample to pass when an external force equal to or larger than a given level is applied.
2. The microchip as claimed in Claim 1, wherein said damming area is a lyophobic area.
3. The microchip as claimed in Claim 1 [[or 2]], wherein said liquid sample which has passed through said filter moves by capillary action.
4. The microchip as claimed in ~~any one of Claims 1 to 3~~ Claim 1, wherein said first channel further comprises an inflow stopper downstream of said filter for preventing a liquid from flowing into said first channel.
5. The microchip as claimed in Claim 4, wherein said inflow stopper prevents a liquid from flowing into said first channel when a predetermined amount of liquid enters said first channel.

6. The microchip as claimed in Claim 4 [[or 5]], further comprising external force applying means for applying an external force to a liquid sample flowing said channel,
wherein said external force applying means applies an external force to a sample such that when inflow of a liquid into said first channel is stopped by said inflow stopper, said liquid sample flows over said lyophobic area into said second channel.
7. The microchip as claimed in ~~any one of Claims 1 to 6~~ Claim 1, wherein said filter is comprised of a plurality of pillars.
8. The microchip as claimed in ~~any one of Claims 1 to 6~~ Claim 1, wherein said filter is an aluminum oxide, a porous film or a polymer gel film.
9. A microchip on a substrate, comprising a channel for a liquid sample containing a particular component and a plurality of discharge channels along the sidewall of said channel, wherein said discharge channels prevent passage of said particular component.
10. A microchip on a substrate, comprising a channel for a liquid sample containing a particular component and a filter disposed to block the flow in said channel for preventing passage of said particular component, wherein said channel comprises a branched part consisting of a sample feeding part and a sample recovering part in one side and a solvent feeding part in the other side.
11. The microchip as claimed in Claim 10, further comprising a discharging part disposed at a position other than said solvent feeding part in the other side of said filter, from which said liquid sample passing through said filter is discharged.

12. The microchip as claimed in Claim 11, wherein said liquid sample passing through said filter moves by capillary action.

13. The microchip as claimed in ~~any one of Claims 10 to 12~~ Claim 10, wherein said solvent feeding part comprises a damming area preventing a liquid from entering from the direction of said filter while facilitating discharge of the liquid toward said filter.

14. The microchip as claimed in ~~any one of Claims 10 to 13~~ Claim 10, wherein said sample feeding part comprises a damming area preventing a liquid from entering from the direction of said filter while facilitating discharge of the liquid toward said filter.

15. The microchip as claimed in Claim 13 [[or 14]], wherein said damming area is a lyophobic area.

16. A microchip on a substrate, comprising a channel including a first channel in which a liquid sample containing a particular component flows and a second channel extending along said first channel, and a filter intervening between said first channel and said second channel for preventing passage of said particular component,

wherein said first channel includes a sample feeding part for introducing said liquid sample upstream in the flowing direction and said second channel comprises a substituting solvent feeding part at a position corresponding to the downstream in the flowing direction in said first channel.

17. The microchip as claimed in Claim 16, further comprising an external force applying means which applies an external force to said first channel and said second channel in different directions.

18. The microchip as claimed in Claim 17, wherein said external force applying means applies a larger external force to said first channel than to said second channel.
19. A microchip on a substrate, comprising a channel for a liquid sample containing a particular component and an electrode formed in said channel,
wherein said electrode has a charge having a different polarity from that of said particular component.
20. A process for concentrating a particular component in a liquid sample using said microchip as claimed in ~~any one of Claims 1 to 8~~ Claim 1, comprising the steps of
applying an external force enough to introduce the liquid sample containing said particular component and a solvent into said sample feeding part but not enough for said liquid sample to pass through said damming area;
applying an external force comparable to that applied in said step of introducing said liquid sample to said sample feeding part to introduce said solvent or another solvent into said sample feeding part for a given period; and
stopping said flow of the liquid into said first channel.
21. The process for concentrating as claimed in Claim 20, wherein in said step of stopping said flow of said liquid into said first channel, an external force larger than that in any other steps is applied.
22. A process for replacing a solvent in a liquid sample containing a particular component using said microchip as claimed in ~~any one of Claims 1 to 8~~ Claim 1, comprising the steps of
applying an external force enough to introduce the liquid sample containing said particular

component and a first solvent into said sample feeding part but not enough for said liquid sample to pass through said damming area;

applying an external force comparable to that applied in said step of introducing said liquid sample to said sample feeding part to introduce a solvent other than said first solvent into said sample feeding part for a given period; and

stopping said flow of the liquid into said first channel.

23. The process for replacing a solvent as claimed in Claim 22, wherein in said step of preventing a liquid from flowing into said first channel, an external force larger than that in any other steps is applied.

24. A process for concentrating a particular component in a liquid sample using said microchip as claimed in ~~any one of Claims 10 to 15~~ Claim 10, comprising the steps of

introducing the liquid sample containing said particular component and a solvent into said sample feeding part; and

recovering said particular component from said sample recovering part by introducing another solvent from a solvent feeding part.

25. The process for concentrating as claimed in Claim 24, further comprising the step of introducing one of the solvents from said sample feeding part, between said steps of introducing said liquid sample and recovering said liquid sample.

26. A process for replacing a solvent in a liquid sample containing a particular component using said microchip as claimed in ~~any one of Claims 10 to 15~~ Claim 10, comprising the steps of

introducing the liquid sample containing said particular component and a first solvent into said sample feeding part; and

recovering said particular component from said sample recovering part by introducing a second solvent other than said first solvent from said solvent feeding part.

27. The process for replacing a solvent as claimed in Claim 26, further comprising the step of introducing said second solvent from said sample feeding part, between said steps of introducing said liquid sample and recovering said liquid sample.

28. A process for replacing a solvent in a liquid sample using a separator comprising a first channel and a second channel for a liquid sample containing a particular component and a filter intervening between said channels, comprising the step of
moving the liquid sample containing said particular component and a first solvent in said first channel in a first direction; and
simultaneously moving a second solvent in said second channel in a direction different from said first direction,
wherein a ratio of said second solvent to said first solvent increases as said liquid sample is moved in said first channel.

29. The process for replacing a solvent as claimed in Claim 28, wherein an external force applied for moving said liquid sample containing said particular component and said first solvent in said first channel in said first direction is larger than an external force for moving said second solvent in said second channel in a direction different from said first direction, to concentrate said particular component in the downstream of said first channel.

30. A process for replacing a solvent in a liquid sample containing a particular component using a channel comprising an electrode, comprising the steps of

feeding the liquid sample containing said particular component and a first solvent into said channel while charging said electrode with an opposite polarity to said particular component;
feeding a second solvent into said channel while maintaining said charge of said electrode;
and
discharging said electrode and recovering said particular component together with said second solvent


31. The process for replacing a solvent as claimed in Claim 30, wherein said electrode has a charge with the same polarity as said particular component in said step of recovery.

32. A mass spectrometry system comprising
pretreatment means for separating a biological sample by a molecular size or properties while pretreating said sample for preparation for enzymatic digestion;
means for enzymatically digesting said pretreated sample;
drying means for drying said enzymatically digested sample; and
mass spectrometry means for analyzing said dried sample by mass spectrometry,
wherein said pretreatment means comprises said microchip as claimed in any one of Claims 1 to 19 Claim 1.

REMARKS

Applicants submit that the foregoing amendments to the claims, made to correct multiple claim dependencies and do not introduce new matter into the application. Wherefore, early and favorably consideration of the present application, as amended herein, is respectfully requested.

Respectfully submitted,


Paul J. Esatto, Jr.
Registration No. 30,749

SCULLY, SCOTT, MURPHY & PRESSER
400 Garden City Plaza, Suite 300
Garden City, New York 11530
(516) 742-4343

PJE:ac

PATENT APPLICATION SERIAL NO. 10/536597

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
FEE RECORD SHEET

16/02/2005 MKAYPAGH 00000154 10536597

01 FC:1631	300.00 DP
02 FC:1642	400.00 DP
03 FC:1633	200.00 DP
04 FC:1615	600.00 DP
05 FC:1614	800.00 DP

12/12/2005 KNCLEAH1 00000001 191013 10536597

01 FC:1615 50.00 DA

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12/12/2005 KNCLEAH1 00000001 191013 10536597
01 FC:1615 50.00 CR